

CLAIMS

1. A process for the preparation of expandable vinylaromatic polymers which comprises:

- 5 a) polymerizing in aqueous suspension at least one vinylaromatic monomer in the presence of a suspending agent selected from inorganic salts of phosphoric acid;
- b) recovering the expandable beads from the reaction container;
- 10 c) washing the beads thus obtained with an aqueous solution containing 0.005-2% by weight of a non-ionic surface-active agent;
- d) recovering the washed beads substantially without any inorganic salt of phosphoric acid, on the surface, and drying
- 15 them in a stream of air.

2. The process according to claim 1, wherein the polymerization in aqueous suspension of the vinylaromatic monomer is carried out in the presence of an initiator system and an expanding agent.

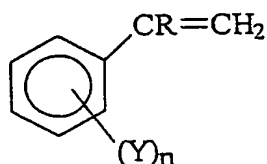
- 20 3. The process according to claim 2, wherein the initiator system comprises two peroxides, one with a half time of an hour at 85-95°C and the other with a half time of an hour at 110-120°C.

4. The process according to claim 2, wherein the expanding
- 25 agent capable of being englobed in the polymeric matrix

consists of liquid substances with a boiling point ranging from 10 to 100°C.

5 The process according to any of the previous claims, wherein the expanding system is added in such quantities as to give a polymer in the form of beads which can be transformed to produce expanded articles having a density ranging from 5 to 50 g/l.

6 The process according to any of the previous claims, wherein the vinylaromatic monomer is selected from those
10 having the general formula:



(I)

15 wherein n is zero or an integer ranging from 1 to 5, R is a hydrogen atom or a methyl and Y is a halogen, such as chlorine or bromine, or an alkyl or alkoxy radical having from 1 to 4 carbon atoms.

7 The process according to any of the previous claims,
20 wherein the non-ionic surface-active agent is selected from alcohols/ C_8 - C_{18} ethoxylated and/or propoxylated fatty acids, ethoxylated and/or propoxylated glycerin ethers with an average molecular weight Mw ranging from 3500 to 5000, glycols condensed with ethylene oxide and/or propylene oxide,
25 ethoxylated and/or propoxylated nonyl phenols with 0-5

units of ethylene oxide and/or propylene oxide, ethoxylated and/or propoxylated sorbitol with 5-20 units of ethylene oxide and/or propylene oxide, fatty acids of coconut salfied with K, MEA.

5 8. The process according to any of the previous claims, wherein the washing takes place at a temperature ranging from 20 to 50°C, in stirred containers containing the surface-active agent in a concentration ranging from 0.005 to 2% by weight, preferably from 0.02 to 1%.

10 9. Expandable beads of vinylaromatic polymers obtainable according to the process of any of the previous claims comprising 0.05-25% b.w. of athermaneous or refracting materials.

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